

REMARKS

The present application was filed on September 12, 2003 with claims 1 through 29. Claims 1 through 29 are presently pending in the above-identified patent application. Claims 1, 20, and 29 are proposed to be amended and claims 30-35 are  
5 proposed to be added herein.

A Request for Continued Examination is being submitted herewith.

In the Examiner's Answer dated August 3, 2007, the Examiner notes that the section 102 and 103 rejections have been withdrawn. The Examiner notes that claims 1-29 are rejected under 35 U.S.C. §101 because the claimed invention is directed to non-  
10 statutory subject matter.

Section 101 Rejections

Claims 1-29 are rejected under 35 U.S.C. §101 because the claimed invention is directed to non-statutory subject matter. In particular, the Examiner asserts that the claims fail to provide a tangible result, and notes that there must be a practical  
15 application. The Examiner asserts that 1) the Appellant admits to unknown uses for the invention; 2) relies on "Background" to supply a practical application of the invention; and 3) admits (in paragraph 0019) that the invention is an 'abstract problem.'

Regarding the Examiner's assertion that the Appellant admits to unknown uses for the invention, Applicants note that, as described below, the disclosure clearly  
20 identifies practical applications of the invention. The existence of additional unknown uses for the invention has no relevance to the validity of the claims under section 101. In addition, independent claims 1, 20, and 29 have been amended to require *providing said permutation patterns for utilization in an application that processes a relationship between groups of said characters identified by said permutation patterns*. Applicants  
25 believe that this amendment limits the claims to a practical application.

Regarding the Examiner's assertion that the Appellant relies on "Background" to supply a practical application of the invention, please note that the specification has also been amended to include the practical application(s), as disclosed in the "Background" section, in the "Detailed Description" section.

Regarding the Examiner's assertion that the Appellant admits (in paragraph 0019) that the invention is an 'abstract problem,' Applicants note that the term "abstract" was used in a technical sense, and *not* as a legal admission in the context of statutory subject matter. In any case, the specification has been amended to change  
5 "abstract problem" to "problem" in paragraph 0019.

Finally, as previously noted, the Supreme Court has stated that the "[t]ransformation and reduction of an article 'to a different state or thing' is the clue to patentability of a process claim." *Gottshalk v. Benson*, 409 U.S. 63, 70, 175 U.S.P.Q. (BNA) 676 (1972). In other words, claims that require some kind of transformation of  
10 subject matter, which has been held to include intangible subject matter, such as data or signals, that are representative of or constitute physical activity or objects have been held to comply with Section 101. See, for example, *In re Warmerdam*, 31 U.S.P.Q.2d (BNA) 1754, 1759 n.5 (Fed. Cir. 1994) or *In re Schrader*, 22 F.3d 290, 295, 30 U.S.P.Q.2d (BNA) 1455, 1459 n.12 (Fed. Cir. 1994).

Thus, as expressly set forth in each of the independent claims, the claimed methods or system describe discovering permutation patterns from an input string having a plurality of characters, each character being from an alphabet, and transform the input string to permutation patterns. This transformation to permutation patterns provides a useful, concrete and tangible result. For example, the Background section of the present  
20 disclosure describes how such permutation patterns are utilized in medical applications related to genes and proteins. Thus, contrary to the Examiner's assertion that no function or application has been stated for the invention, Appellants note that the Background section of the present disclosure describes how such permutation patterns are utilized in medical applications related to genes and proteins (see, page 1, line 12, to page 2, line  
25 20). The final result of the cited claims, i.e., permutation patterns, are useful, concrete and tangible results.

Appellants submit that each of claims 1-29, as amended, are in full compliance with 35 U.S.C. §101, and accordingly, respectfully request that the rejection under 35 U.S.C. §101 be withdrawn.

New Claims 30-35

New claims 30-35 have been added to more particularly point out and distinctly claim various features of the invention, consistent with the scope of the originally filed specification, in order to give applicant the protection to which he is  
5 entitled. No new matter is introduced. Support for this material is set forth at page 1, line 12, to page 2, line 20, of the originally filed specification, and in the first six paragraphs of the Detailed Description of the amended specification.

Claims 30-31, claims 32-33, and claims 34-35 are dependent on claims 1, 20, and 29, respectively, and are therefore patentably distinguished over the previously  
10 cited prior art (alone or in any combination) because of their dependency from independent claims 1, 20, and 29 for the reasons set forth above, as well as other elements these claims add in combination to their base claim

Allowance of claims 30-35 is believed to be warranted.

All of the pending claims following entry of the amendments, i.e., claims  
15 1-35, are in condition for allowance and such favorable action is earnestly solicited.

If any outstanding issues remain, or if the Examiner has any further suggestions for expediting allowance of this application, the Examiner is invited to contact the undersigned at the telephone number indicated below.

The Examiner's attention to this matter is appreciated.

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Respectfully submitted,



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